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Costings: Direct vs Indirect costs

With margins in the agricultural sector always under pressure, having a handle on costings is key. Costs for which you receive a printed bill are easy to keep track of (the vet, feed, fertiliser, etc.). However, tracking the cost of disease can be harder.

Disease costs can be broken down into direct and indirect costs. Direct costs are the upfront costs you see immediately, for example, the cost of antibiotics and discarded milk in a mastitis case. Indirect costs are the hidden costs associated with disease. These are much harder to quantify and in almost all cases outweigh the direct costs. Take the case of mastitis; the indirect costs include but are not limited to; reduced milk yield, increased chance of recurrence and increased chance of cull.



The three areas of disease that cost the most within the dairy industry are; poor fertility, mastitis and lameness.

Poor fertility

Fertility is the biggest driver of profitability on dairy and beef farms. The aim is to get every cow to calve once every year and achieve a calving interval of 365 days. If you subtract from this the length of pregnancy (285 days) that leaves you with 80 days for calving to conception. When you take off a standard voluntary wait period of 42 days this gives a window of 38 days to get a cow in calf.

Most costs with poor fertility are indirect costs; you don't receive a bill for every cow that isn't in calf. The costs include increased chance of cull, increased semen costs, fewer calves produced and most significantly a smaller percentage of lactation spent at peak yield. A cow is much more efficient in her first 100 days post calving, her feed efficiency is far greater during this time, so the aim is to maximise the percentage of her lactation spent within this first 100 days. A cow may still be giving 30L at 300 days in milk but the cost to produce those 30L is far more than at 50 days in milk.



The estimated cost of an extended calving interval is £2.50 - £5/day extended/cow. Taking a typical milking herd of 200 cows with a calving interval of 420 days, this is not disastrous but if we aim for a calving interval of 385 and assume a cost per cow per day of £4 this equates to a loss of £28,000! (200 cows x £4 x 35days). Regular routine fertility visits are one of the most effective ways to reduce calving interval. Cows that are not in calf or have not been seen bulling can be brought into heat more quickly.

Mastitis

Mastitis is a disease all dairy farmers will encounter at some point. Increased cell counts and or an increased clinical mastitis rates is one of the most common difficulties we deal with at the practice.

The direct costs of mastitis are easy to see - the cost of a course of tubes and the milk discarded when under withdrawals. However, the estimated cost of a single case of mastitis is £200 which is a lot more than the cost of tubes and discarded milk. These extra costs are the indirect costs and are made up of an increased chance of cull, increased chance of repeated cases of mastitis, increased chance of spread to other cows, decreased milk yield across the whole lactation, reduced fertility, I could go on! Take our 200-cow herd again: if this herd had a mastitis problem resulting in a clinical case rate of 80 cases/100cows/year (target <30 cases) this would cost the farm £20,000 more than if mastitis cases were on target! (200 cows mean 160 cases in a year x £200).

The key to solving a mastitis problem is a thorough investigation via the DairyCo mastitis plan to identify where the cases are coming from (dry period or lactation) and what bacteria is causing the mastitis (environmental or contagious). Only then can effective control strategies be put in place. This can be achieved with around four hours vet time which costs considerably less than £20,000!



Lameness

Nationally 30% of dairy cows are lame. It is a huge welfare issue and an enormous financial cost. Again, the direct costs of lameness are easily quantifiable; labour to treat lame cows, vet or foot trimmer visits and antibiotics/pain relief given as an aid to treatment. Indirect costs are much the same for mastitis. Lame cows will give considerably less milk, are more likely to be culled, and in the case of digital dermatitis are likely to spread lameness to other cows and have hugely extended calving intervals. Again, these indirect costs far outweigh the direct costs.

The cost of a case of lameness varies depending on what is causing the cow to be lame. Digital dermatitis costs £80, a white line disease £250 and a sole ulcer can cost as much as £500! Let's look back at our 200-cow herd which has had a mobility score recently of 75%. To work out the number of lame cows they have in a year you can multiply the total of lame cows at a mobility score by 2.5. So, in a year our 200-cow herd has 125 cases of lameness! At an average cost of £270 per case this herd will be costing £23,625 more than if the herd had a target mobility score of 85%!



Again, the key to controlling lameness is regular mobility scoring, prompt treatment of lame cows, reducing cow standing times and regular footbathing the cost of which is far less than the cost of lameness.

So next time you have an increase in disease and wonder whether you can afford to have it properly investigated or invest in farm improvement, consider not whether you can afford to do it but whether you can afford not to!

All the best,

Chris

